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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/814,277	03/21/2001	Toshihiko Hanamachi	6946-10	3964

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EXAMINER	
ZERVIGON, RUDY	

ART UNIT	PAPER NUMBER
1763	

DATE MAILED: 01/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/814,277	HANAMACHI ET AL.	
	Examiner	Art Unit	
	Rudy Zervigon	1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 November 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-10,13-20 and 22-26* is/are pending in the application.

4a) Of the above claim(s) *26* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-10,13-20 and 22-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 March 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *11/28/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 28, 2005 has been entered.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "annular low wall" must be shown or the feature canceled from the claims. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet"

pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1, 4-7, 9, 13-16, 19, 20, and 22-25 rejected under 35 U.S.C. 103(a) as being unpatentable over Kadomura et al (JP11-121598) in view of Niori; Yusuke et al. (US 5,800,618 A). Kadomura teaches:

i. A heater (14, 12) device (10; abstract), comprising: a heater (14, 12) defining a substantially horizontal planar upper heating surface (top of 12); and a ceramic plate (13) having a substantially horizontal planar lower surface conforming to and supported by said heating surface (top of 12) but not fastened thereto, the ceramic plate (13) substantially entirely covering said upper heating surface (top of 12), said ceramic plate (13) including an upper supporting surface (top of 13) for supporting an object (atop 13) to be heated by heat conduction through said ceramic plate (13) from said heater (14, 12) to such an object (atop 13), whereby said ceramic plate (13) can be easily placed on and removed from said upper heating surface (top of 12) of said heater (14, 12), wherein said ceramic plate (13) is solid and devoid of openings for passing fluid therethrough and wherein said heater (14, 12) consists of a ceramic heater (14, 12) - claim 1

ii. A heater (14, 12) device (10; abstract) according to claim 1, wherein said ceramic plate (13) is substantially made of ceramic material, as claimed by claim 7

iii. a heater (14, 12) defining a heating surface (top of 12), and a ceramic plate (13) simply detachably placed on said heating surface (top of 12) of said heater (14, 12) without being fastened thereto so as to substantially entirely cover said heating surface (top of 12) and defining a supporting surface for supporting an object (atop 13) of a film forming process, wherein said ceramic plate (13) is solid and devoid of openings for passing fluid there through wherein said ceramic plate (13) is substantially made of ceramic material and wherein said heater (14, 12) consists of a ceramic heater (14, 12) - claim 9

iv. A film forming device comprising: a process vessel defining a process chamber (25; Figure 2); a heater (14, 12 – part of 10; Figure 2, 1a,b) defining a heating surface, said heater (14, 12 – part of 10; Figure 2, 1a,b) being placed in said process chamber; and a ceramic plate (13) simply detachably placed on said heating surface of said heater (14, 12 – part of 10; Figure 2, 1a,b) without being fastened thereto to substantially entirely cover said heating surface, the ceramic plate (13) defining a supporting surface for supporting an object (40; Figure 2) of a film forming process, wherein said ceramic plate (13) is solid and devoid of openings for passing fluid therethrough - claim 14

v. A film forming device according to claim 9, wherein said ceramic plate (13) has a thickness of no more than 5 mm, as claimed by claim 15

vi. A film forming device according to claim 9, wherein said ceramic plate (13) is substantially made of ceramic material, as claimed by claim 16

vii. a heater (14, 12) defining a heating surface (top of 12); and a ceramic plate (13) "simply" detachably placed on said heating surface (top of 12) of said heater (14, 12) without being fastened thereto so as to substantially entirely cover said heating surface (top of 12) and

defining a supporting surface for supporting an object (atop 13) of a film forming process, wherein said ceramic plate (13) is substantially made of ceramic material, and said ceramic plate (13) is substantially made of ceramic material and wherein said heater (14, 12) consists of a ceramic heater (14, 12) - claim 20

viii. a heater (14, 12) device (10; abstract), comprising: a heater (14, 12) defining a substantially horizontal planar upper heating surface (top of 12); and a ceramic plate (13) having a substantially horizontal planar lower surface conforming to and supported by said heating surface (top of 12) but not fastened thereto, the ceramic plate (13) substantially entirely covering said upper heating surface (top of 12), said ceramic plate (13) including an upper supporting surface (top of 13) (top of 13) for supporting an object (atop 13) to be heated by heat conduction through said ceramic plate (13) from said heater (14, 12) to such an object (atop 13), whereby said ceramic plate (13) can be easily placed on and removed from said upper heating surface (top of 12) of said heater (14, 12), wherein said ceramic plate (13) is substantially made of ceramic material and wherein said heater (14, 12) consists of a ceramic heater (14, 12) - claim 22

ix. The heater (14, 12) device (10; abstract) of claim 22, wherein said ceramic plate (13) is directly placed on said upper heating surface (top of 12), as claimed by claim 23

Kadomura does not teach:

i. wherein said heater (14, 12) consists of a ceramic heater (14, 12) and an electrode for radio frequency power is buried in said ceramic heater, as claimed by claim 1, 9, 14, 20, 22

ii. A heater (14, 12) device (10; abstract) according to claim 2, wherein an electrode for radio frequency power is buried in said ceramic heater (14, 12), as claimed by claim 3

iii. A heater (14, 12) device (10; abstract) according to claim 1 , wherein an electrode for radio frequency power is buried in said ceramic plate (13), as claimed by claim 5

iv. A film forming device, comprising: a process vessel defining a process chamber; said heater (14, 12) being placed in said process chamber – claim 9, 20

v. A film forming device according to claim 9, wherein said ceramic plate (13) has a thickness of no more than 2 mm, as claimed by claim 13

vi. The heater device of claim 1, wherein the thickness ranges from 1mm to 5mm, as claimed by claim 25

Niori teaches wafer support means (53; Figure 10; column 16, lines 45-65) with embedded high-frequency electrodes (30).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add Kadomura's ceramic plate (13), with an embedded electrode and optimized dimension, in the apparatus of Niori as taught by Kadomura and Niori.

Motivation to add Kadomura's ceramic plate (13), with an embedded electrode and optimized dimension, in the apparatus of Niori as taught by Niori is for generating a capacitive plasma during plasma processing as taught by Niori (abstract). Further, it is well established that changes in apparatus dimensions are within the level of ordinary skill in the art.(Gardner v. TEC Systems, Inc. , 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied , 469 U.S. 830, 225 USPQ 232 (1984); In re Rose , 220 F.2d 459, 105 USPQ 237 (CCPA 1955); In re Rinehart, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976); See MPEP 2144.04).

5. Claims 8, 10, 17, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kadomura et al (JP11-121598) in view of Selbrede; Steven C. (US 5,094,885 A). Kadomura is discussed above. Kadomura does not teach:

i. A heater (14, 12) device (10; abstract) according to claim 1, 9, wherein said ceramic plate (13) further comprises an annular low wall surrounding said upper supporting surface (top of 13), as claimed by claim 8, 17

ii. A heater (14, 12) device (10; abstract) according to claim 7,16, wherein said ceramic material consists essentially of aluminum nitride, magnesia, or alumina, as claimed by claim 10, 18

Selbrede teaches an alumina wafer clamp ring (29; Figure 3; column 9, lines 36-44) including an annular low wall (103; Figure 3) for supporting a substrate.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add an annular low wall in Kadomura's ceramic plate made from alumina as taught by Selbrede.

Motivation to add an annular low wall in Kadomura's ceramic plate made from alumina as taught by Selbrede is for securing a processed wafer as taught by Selbrede (column 4, lines 34-45) made of materials is for processing compatibility as taught by Selbrede (column 9, lines 36-44).

Response to Arguments

6. Applicant's arguments with respect to claims 1, 4-7, 9, 13-16, 19, 20, and 22-25 have been considered but are moot in view of the new grounds of rejection.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Rudy Zervigon whose telephone number is (571) 272.1442. The examiner can normally be reached on a Monday through Thursday schedule from 8am through 7pm. The official fax phone number for the 1763 art unit is (703) 872-9306. Any Inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Chemical and Materials Engineering art unit receptionist at (571) 272-1700. If the examiner can not be reached please contact the examiner's supervisor, Parviz Hassanzadeh, at (571) 272-1435.